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WITNESS my hand this
Fourteenth day of October 2004

A handwritten signature in cursive script, reading "J. Billingsley".

JULIE BILLINGSLEY
TEAM LEADER EXAMINATION
SUPPORT AND SALES

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PROVISIONAL SPECIFICATION

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Invention Title:

Improved closure for refuse container

The invention is described in the following statement:

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IMPROVED CLOSURE FOR REFUSE CONTAINER

This invention relates generally to containers or receptacles suitable for handling refuse and more particularly, to a closure suitable for use with such a container.

5

Refuse containers or bins which are used usually for handling refuse materials in commercial situations generally comprise a metal container or bin having an open top for receiving the refuse material therein. The open top has a closure or lid thereon which is usually pivotally mounted. The containers or bins are arranged so that they can be picked
10 up by a machine and tipped for emptying into a refuse collecting vehicle or the like.

The containers or bins are usually made from metal and the lids are often formed from plastics material. Such refuse containers suffer from the problem that because of the rough manner in which they are handled, the lids tend to be damaged and need to be
15 relatively frequently replaced.

It is an object of the present invention to provide an improved closure for a refuse container which alleviates the aforementioned problem.

20 According to one aspect of the present invention there is provided a closure for a refuse container, the closure including a main panel portion having opposed side edges, the closure further including side members, each of which is adapted to be associated with a respective side edge of the main panel portion. The closure further includes cooperating
25 connecting means for releasably connecting each of the side members to a respective side edge of the main panel portion, and pivot mounting means for pivotally mounting the closure to the refuse container.

The releasable connecting means may, in one arrangement be configured so that the side members can be connected to the main panel portion in a number of different
30 orientations.

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In one form, the main panel portion may include a generally flat unit which is generally square or rectangular in plan having opposed end ends extending between the opposed sides. The pivot mounting may be provided at one of the ends and a handle may be provided at the other of the ends. The main panel portion may be of a solid construction, a single skin, or a hollow box section configuration. The main panel portion may include one or more units. In the case where the main panel portion includes a number of units these may be interconnected in any suitable fashion.

Each side member of the closure may be in the form of an elongated bar shaped element having sides which are preferably about the same length of the sides of the main panel portion. Each side member may include ends, one end of which has a pivot mounting thereon and the other end may include a handle portion. Preferably, the side members are dimensioned so that they form a stronger and more rigid structure than the main panel portion. The side members may be of solid constriction, a single skin or box section configuration.

In one form of the invention the connecting means may include a tongue and cooperating groove, the tongue being formed on one of either the main panel portion and one of the side members and the groove being formed on the other of the main panel portion or one of the side members. Preferably, two tongues are provided one extending along each of the sides of the main panel portion. Each side member may include two grooves each formed in a respective side thereof. The main panel portion and side member can be connected together by sliding the tongue into the groove at one end thereof. As will be appreciated because each of the side members includes two grooves one on either side thereof, the side members can be orientated relative to the panel member in four different configurations; that is, one side member can be connected to one side of the main panel portion in two different orientations and further the side members can be swapped so that they can be connected to the opposite side of the main panel portion.

The pivot mounting may be in the form of a pin receiving sleeve operatively mounted to the main panel portion and/or the side members. In one form metal

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reinforcement may be provided in the region of the pivot mountings in side members and/or main panel portion.

Preferably, the closure is formed from metal or plastics material and may be
5 manufactured using any suitable manufacturing technique such as, rotational moulding, injection moulding or the like.

In order to enable a clearer understanding of the invention, drawings illustrating example embodiments are attached, and in those drawings:

10

Figure 1 is a front elevation of a typically refuse container with which the closure of the present invention is suitable for use;

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Figure 2 is a side elevation of the refuse container shown in Figure 1;

Figure 3 is a schematic illustration of an example of a closure according to the present invention;

20

Figure 4 is a further illustration of the closure shown in Figure 3 with the main panel portion and side members partially separated from one another;

Figure 5 is a schematic isometric view of a closure according to the present invention;

25

Figure 6 is a schematic isometric view of a side member forming part of the closure of the present invention;

Figure 7 is side elevation of the side member shown in Figure 6;

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Figure 8 is a plan view of the side member shown in Figures 6 and 7;

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Figure 9 is a isometric view of a main panel portion according to one form of closure according to the present invention;

Figure 10 is a plan view of the main panel portion shown in Figure 9; and

5

Figure 11 is a side elevation of the main panel portion shown in Figures 9 and 10.

Referring to the drawings there is shown in Figures 1 and 2 a refuse bin generally indicated at 50 which comprises a box shaped body 52 having an open top 53. Lifting channels 54 are provided on each side of the body of the refuse bin enabling the bin to be lifted by means of a fork lift machine. A hinge pin mount 55 is provided at the rear of the bin for receiving a hinge pin 56. The refuse bin is formed of steel or other suitable metal.

The closure as shown in Figures 3 to 11 is generally indicated at 10 and includes a main panel portion 12 which is a generally flat element having opposed sides 13 and 14 and opposed ends 15 and 16.

The closure further includes side members 20 and 30 each being in the form of an elongated element 21 and 31 having sides 22, 23, and 32 and 33 and ends 24, 25 and 34 and 35. The side members are dimensioned so as to provide a more rigid and stronger structure than the main panel portion 12. In the embodiment of Figures 5 to 11 a handle 37 is provided at one end of the main panel portion and side members.

Cooperating connecting means 40 are provided on the main panel portion and side members, the cooperating connecting means including a rib or tongue 41 receivable within groove 42. The ribs or tongues 41 are formed on sides 13 and 14 of the main panel portion 12 and the grooves 42 are formed on both sides of each side member 20 and 30.

A pivot mounting 45 in the form of a pin mounting sleeve is provided at one end of each of the main panel portion and side members.

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- 5 -

Each of the main panel portion and side members have a generally box section structure and are formed of plastics material which is preferably rotationally moulded. Metal reinforcement may be provided in the region of the pivot mounting 45.

5 The closure of the present invention provides significant advantages over the prior art. By far the most commonly damaged section of currently known closures is in the outer side and pivot portion at the outer edge of each closure. By providing a narrow more rigid side section along each side of the main panel portion they can more readily lend themselves to the use of a single piece steel insert connecting the stay pivot and the
10 main hinge. The structural box section at the supporting side of the container will increase strength in the area where its most required and the insert will extend at least partially along the length of each side section. The arrangement allows each closure to be used in a number of alternative positions on the container. Should the pivot and/or hinge be damaged in its initially installed position it can be rearranged in three alternative ways.
15 Furthermore, the closure can be lighter whilst retaining the same strength reducing loads on the closure and any hazard to operators. Each of the parts of the closure can be readily replaced if they become damaged.

Finally, it is to be understood that the inventive concept in any of its aspects can be
20 incorporated in many different constructions so that the generality of the preceding description is not to be superseded by the particularity of the attached drawings. Various alterations, modifications and/or additions may be incorporated into the various constructions and arrangements of parts without departing from the spirit or ambit of the invention.

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Dated this 7th day of October, 2003

PETER WILLIAM HARKINS

By Its Patent Attorneys

DAVIES COLLISON CAVE

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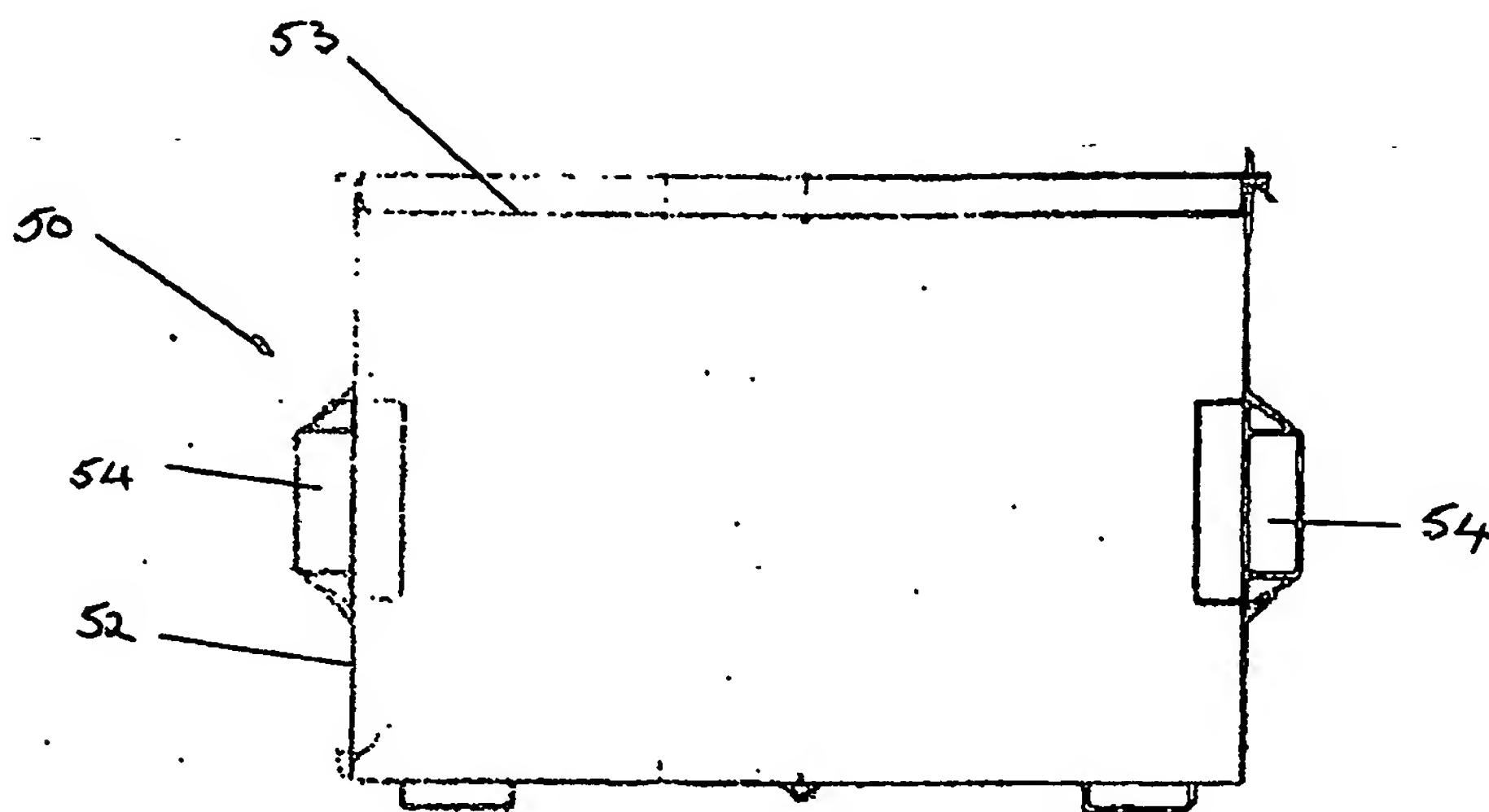


FIG. 1

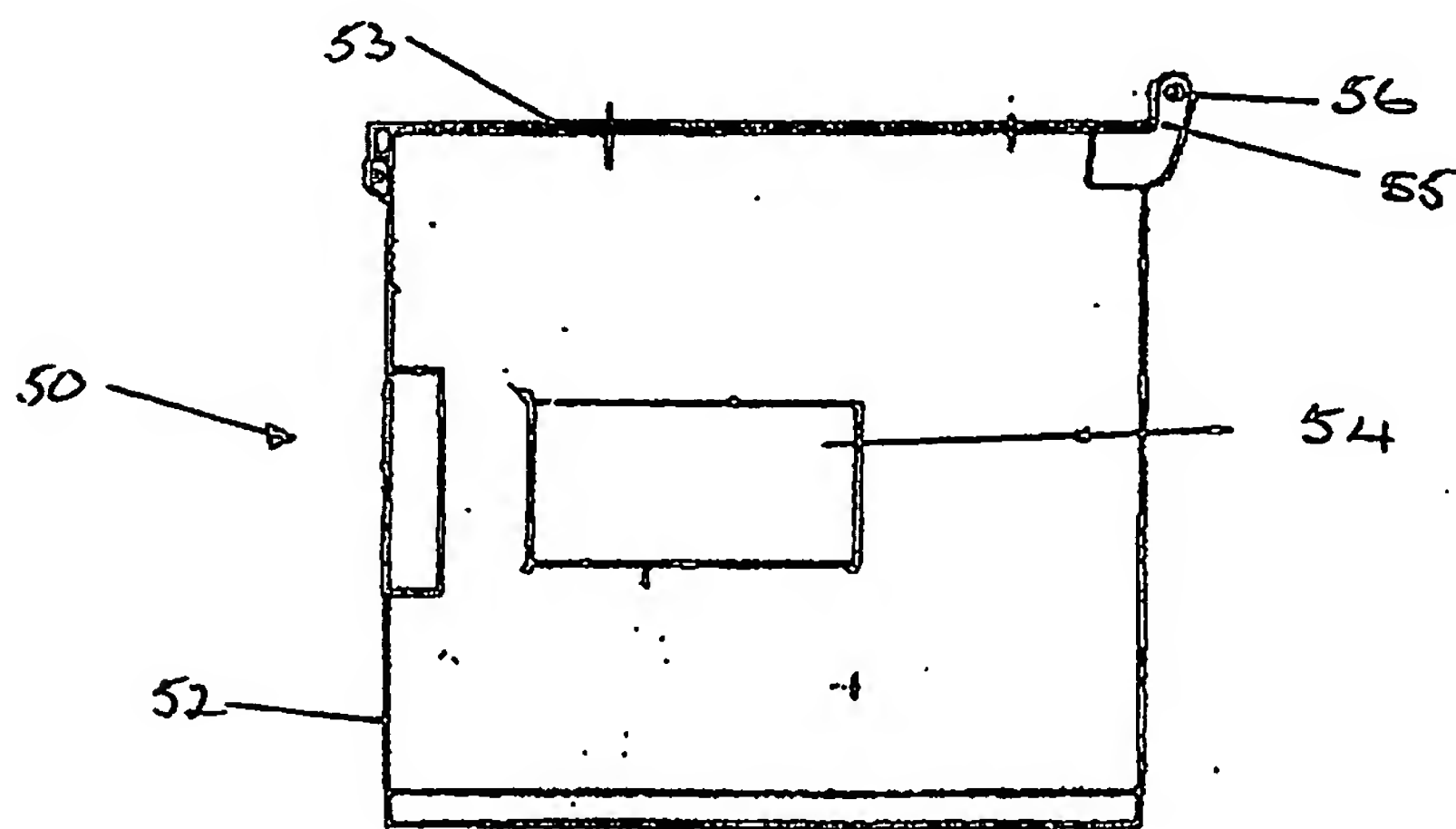


FIG. 2

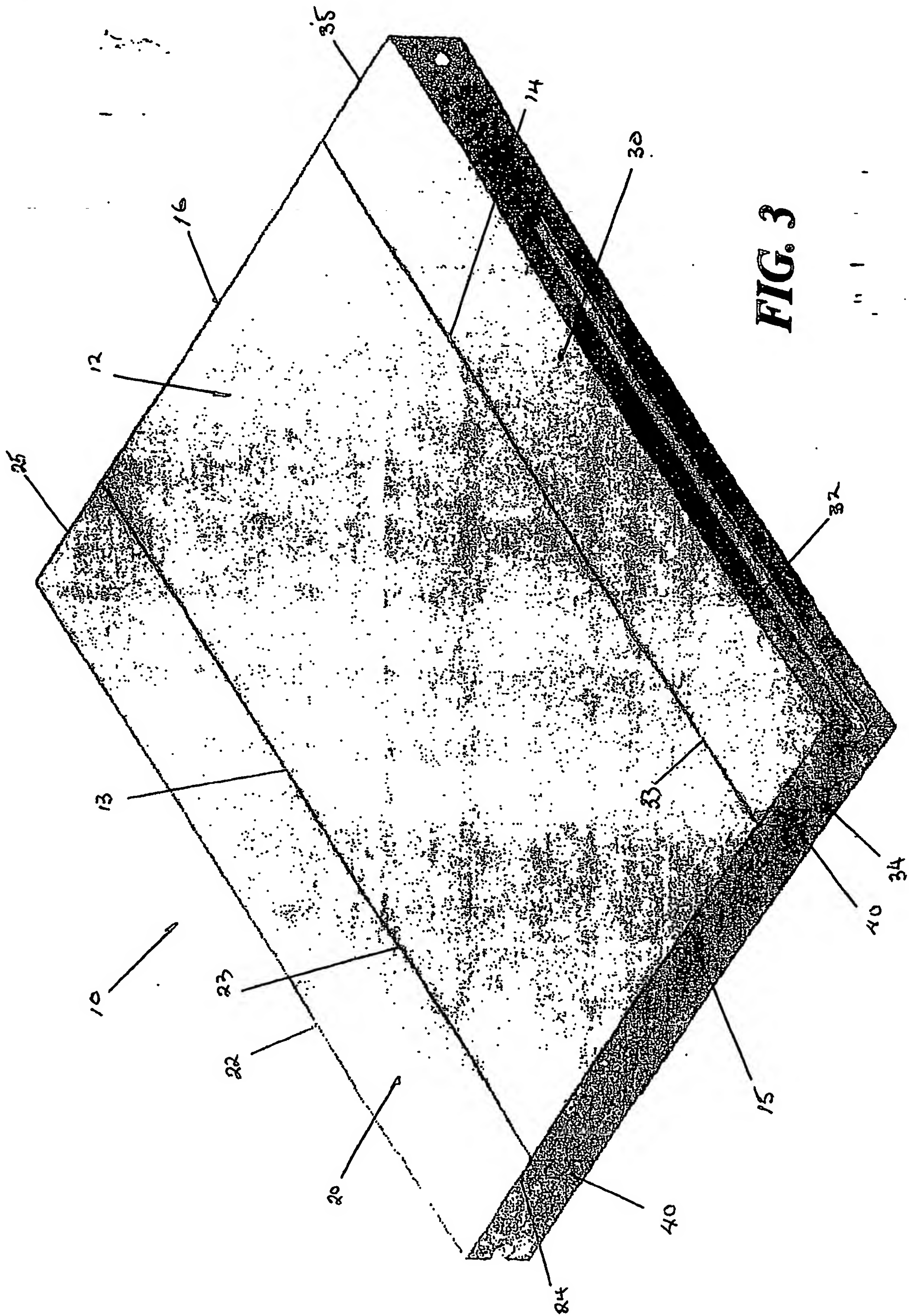


FIG. 3

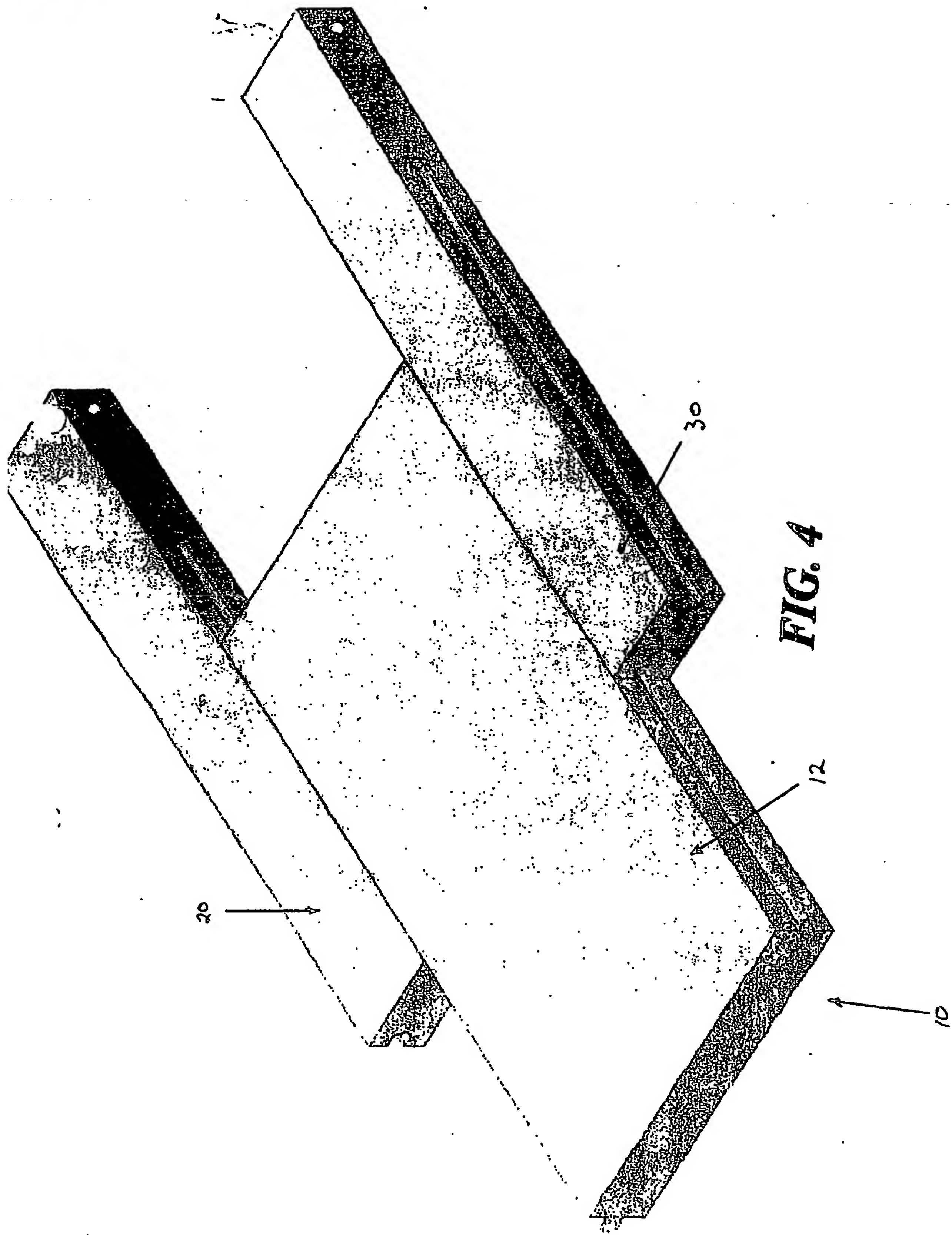


FIG. 4

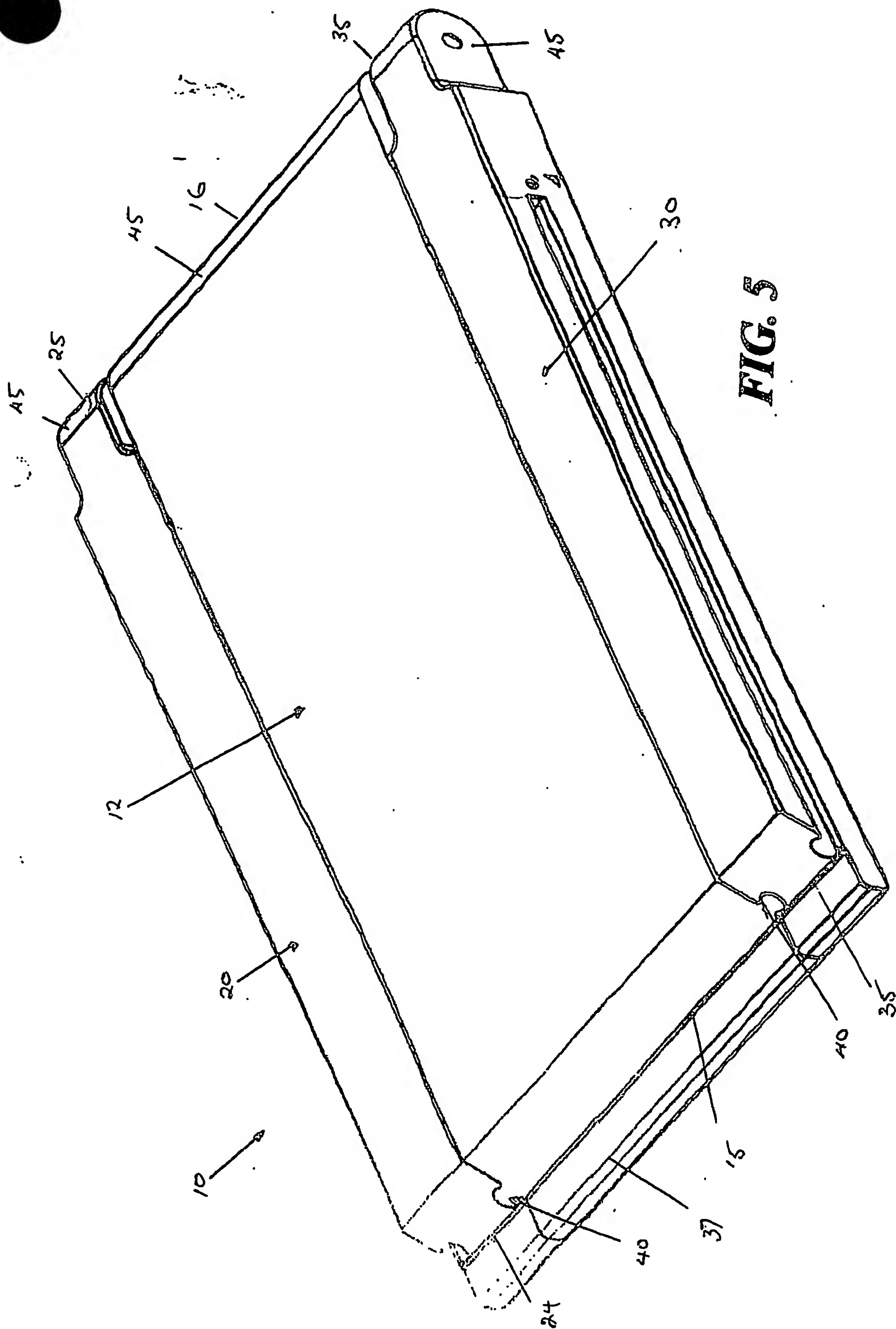


FIG. 5

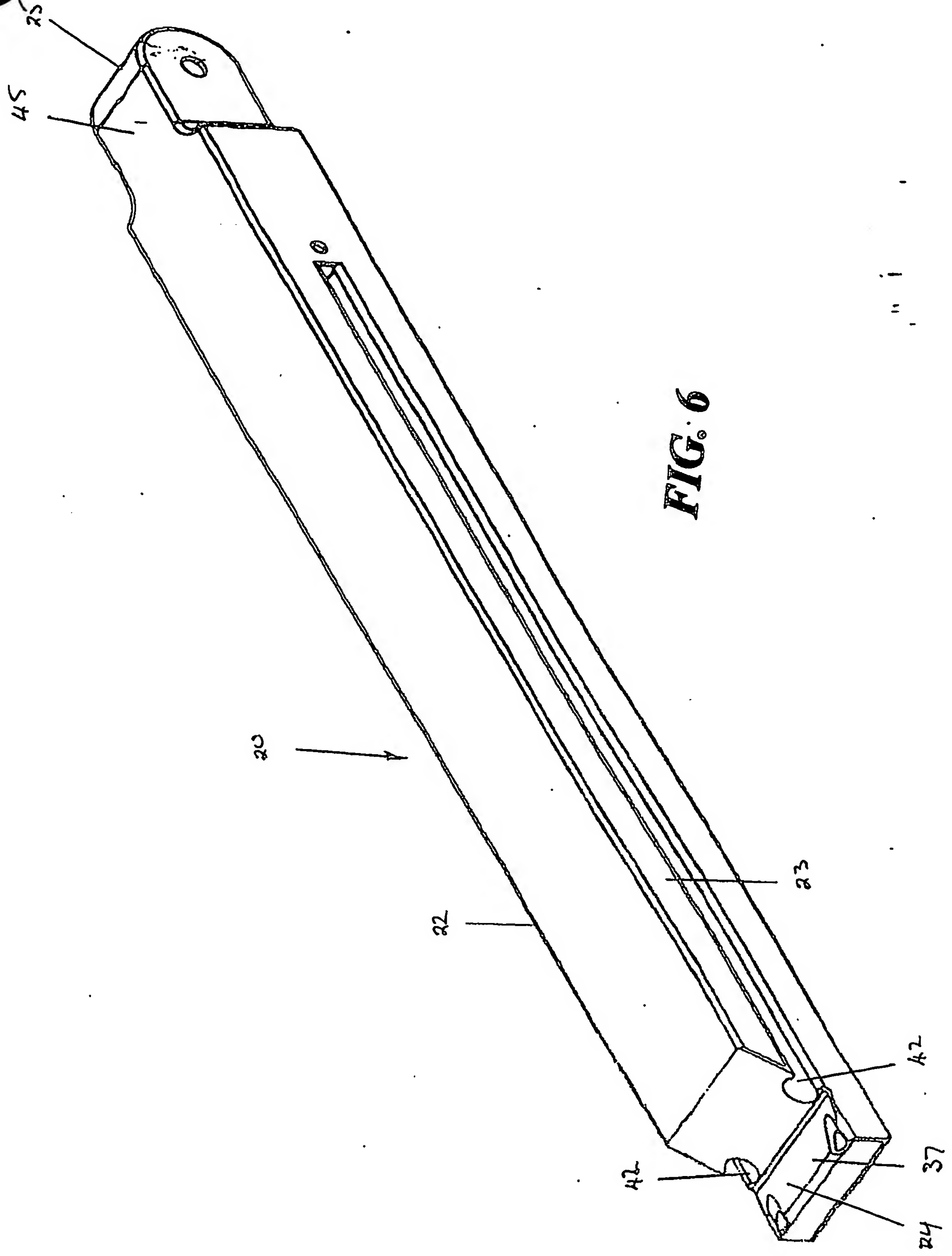
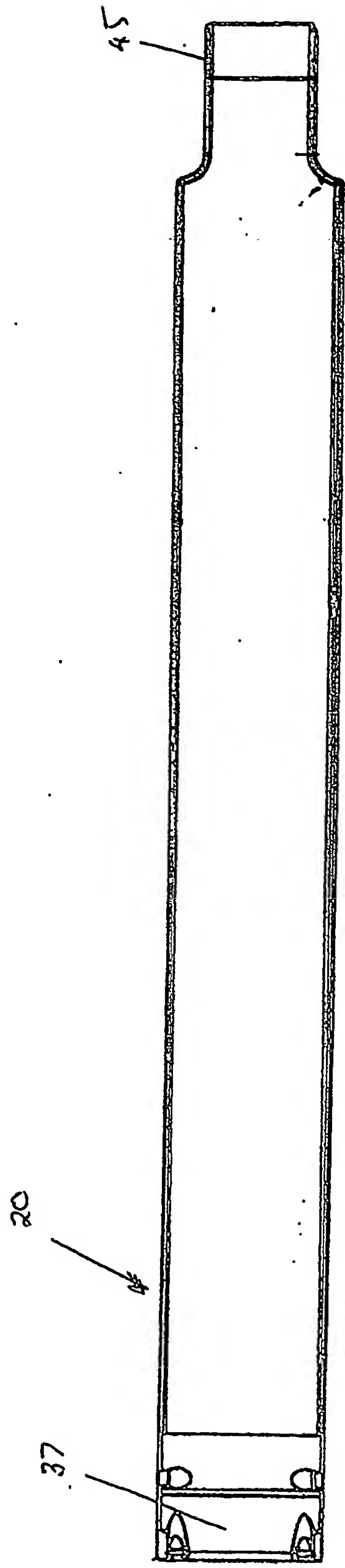
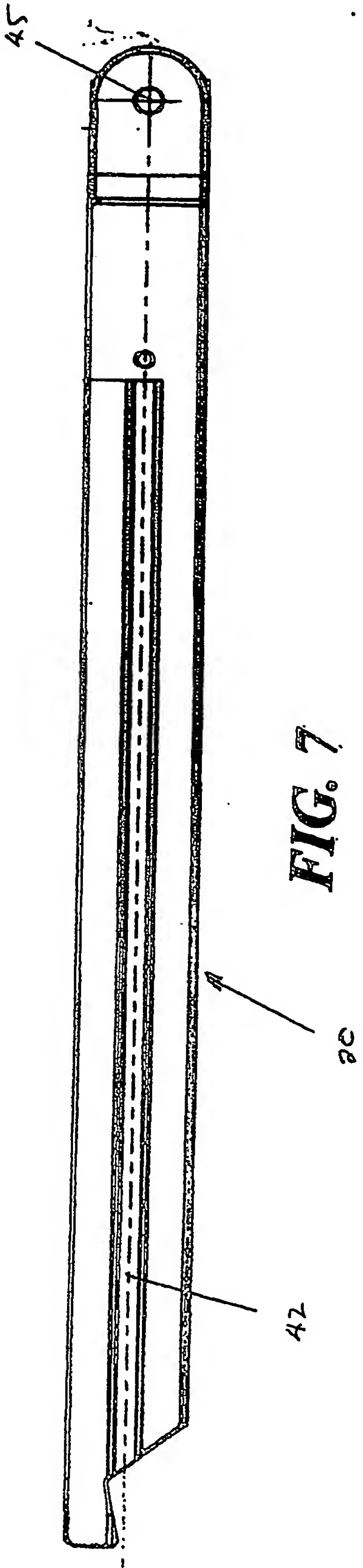


FIG. 6



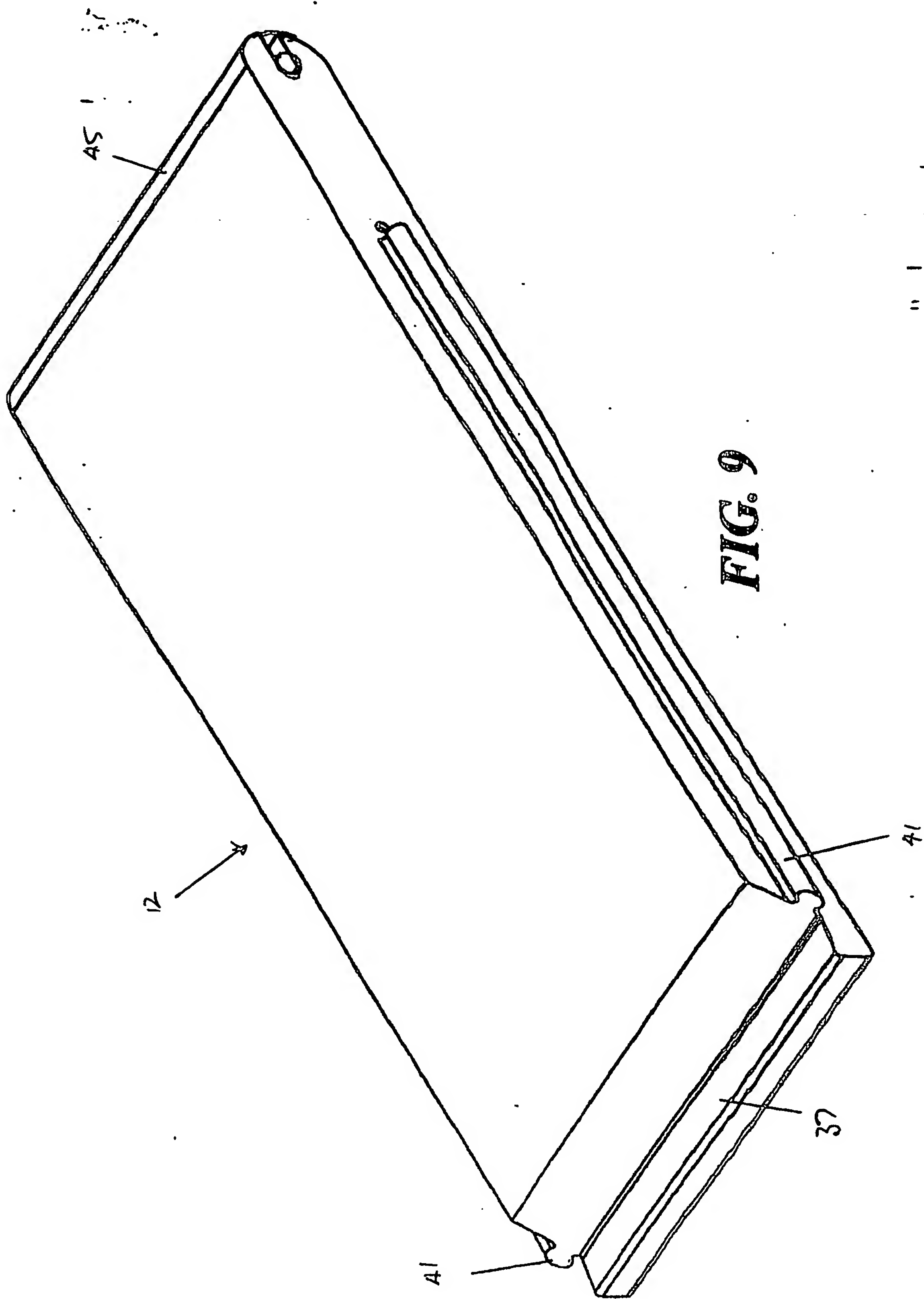


FIG. 10

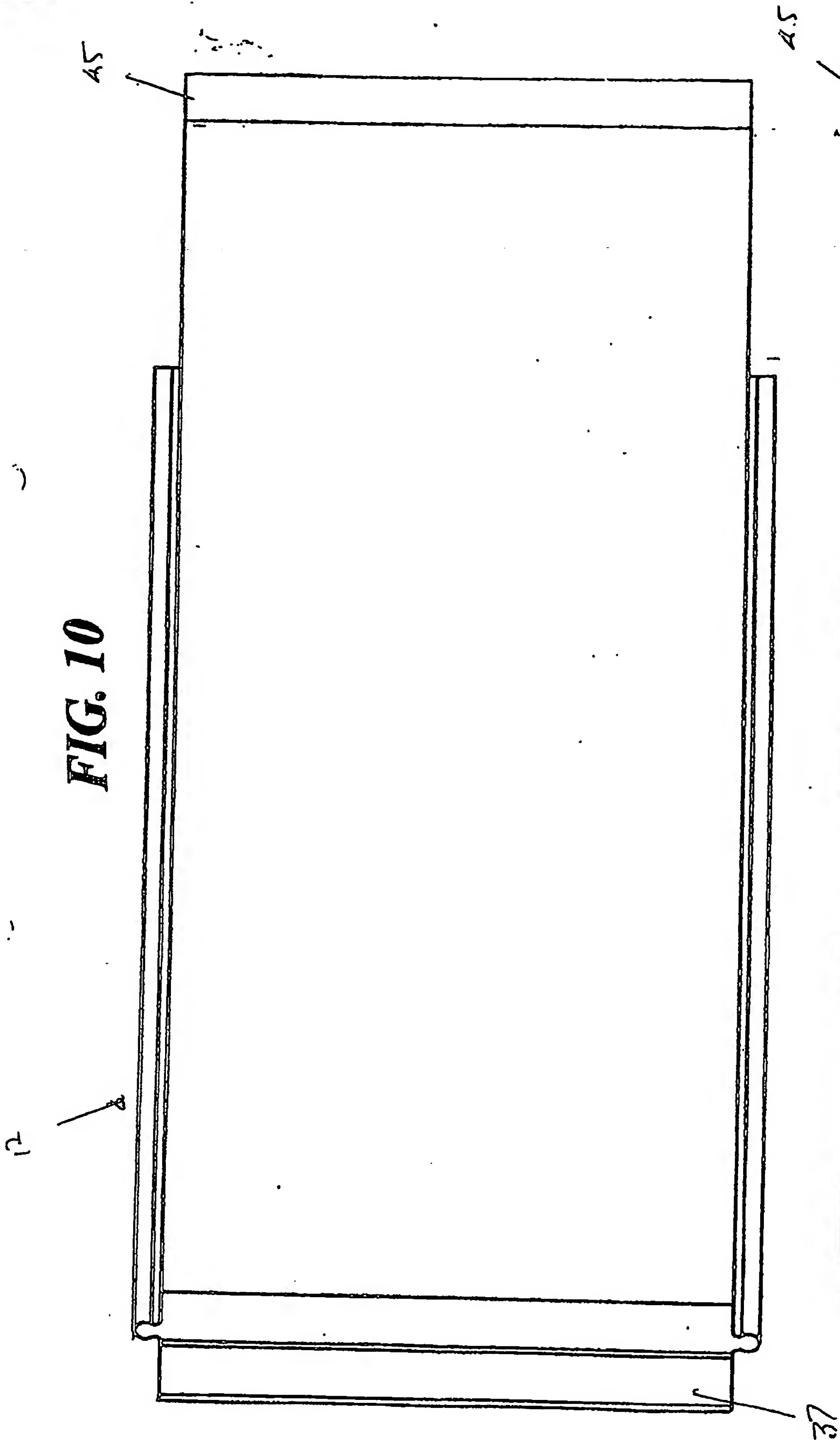
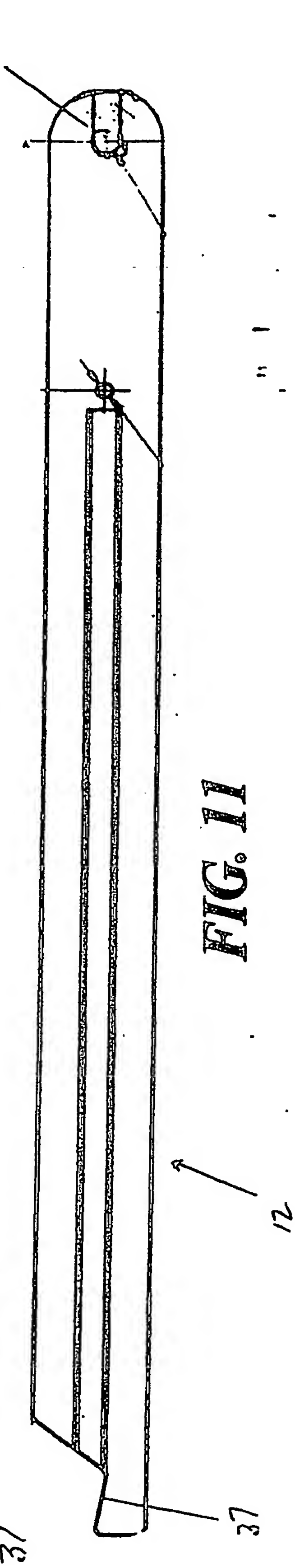


FIG. 11



Document made available under the Patent Cooperation Treaty (PCT)

International application number: PCT/AU04/001360

International filing date: 06 October 2004 (06.10.2004)

Document type: Certified copy of priority document

Document details: Country/Office: AU
Number: 2003905472
Filing date: 07 October 2003 (07.10.2003)

Date of receipt at the International Bureau: 01 November 2004 (01.11.2004)

Remark: Priority document submitted or transmitted to the International Bureau in compliance with Rule 17.1(a) or (b)



World Intellectual Property Organization (WIPO) - Geneva, Switzerland
Organisation Mondiale de la Propriété Intellectuelle (OMPI) - Genève, Suisse

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